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**Epic Fail! – APS Is Replacing All Its “Smart” Meters  
Information & Perspective by Warren Woodward  
Sedona, Arizona ~ November 22, 2015**

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Several points I have made about APS's toxic "smart" meter boondoggle have been verified once again. Last week I received news from an alert Phoenix couple that APS was already replacing all the "smart" meters it had installed in their neighborhood only seven years previous.

Upon hearing this news I phoned APS and learned that APS has hired subcontractors from a company headquartered in Virginia called Apex Covantage to replace all of APS's Elster brand "smart" meters with Landis & Gyr ones. The explanation I was given for this so-called "upgrade" is that the 2G cellular system that the Elsters use will soon be obsolete. APS informed me that they intend to change out the "smart" meters in their entire service territory by December of next year.

With roughly 1.2 million customers, this so-called "upgrade" will be quite a payday for APS.

The so-called "upgrade" is really an upgrade to APS's rate base.

The rate base is the sum total of APS's expenditures on which by law APS gets a guaranteed rate of return. In other words, the more APS spends, the more money they make. The enormous and never ending costs of the "smart" grid are why customers always get a hefty rate increase whenever and wherever the "smart" grid is installed. Count on a sizable rate increase at APS's next rate case.

I have long made the point to the corrupt and incompetent Arizona Corporation Commission (ACC), who are supposed to be regulating APS, that APS has a perverse incentive to spend money, and that this perverse incentive was a motivating factor behind APS's "smart" grid boondoggle. I proved that the "smart" grid would never pencil out for ratepayers by providing the ACC with the statements of several state attorneys general who had done cost/benefit analyses, a cost/benefit by accounting firm Ernst & Young for Germany, and an evaluation by Massachusetts' largest utility. I also provided the ACC with plenty of examples of utilities that had received rate increases after installing the "smart" grid. The ACC cared not.

Additionally, I have long made the point that "smart" meter technology, unlike the tried and true analog (electro-mechanical) system, would be the gift that keeps on giving to APS due to the endless costly "upgrades" the "smart" grid would require. For example, last January I wrote the ACC (on page 12, here: <http://images.edocket.azcc.gov/docketpdf/0000159183.pdf>):

Then there's the shorter lifespan that "smart" meters have. According to electric meter testing equipment and services company, Tesco:

“Electro-Mechanical Meters typically lasted 30 years and more. Electronic AMI meters are typically envisioned to have a life span of fifteen years and given the pace of technology advances in metering are not expected to last much longer than this. This means entire systems are envisioned to be exchanged every fifteen years or so.”

Arizona Corporation Commission

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*(Meter Operations in a Post AMI World, Slide 5,*  
<http://www.slideshare.net/bravenna/meter-operations-in-a-post-ami-world-36336258?related=1> )

There's a big financial difference between meters that last "30 years and more" and meters – plus "entire systems" – that "are envisioned to be exchanged every fifteen years or so," especially when the meters that last half as long cost about 10 times more!

Even a 15 year lifespan is probably wishful thinking. APS has admitted to replacing 32,000 faulty "smart" meters from January 1<sup>st</sup> through August 31<sup>st</sup> in 2014 alone (see p. 4 here: <http://images.edocket.azcc.gov/docketpdf/0000156835.pdf> ).

The ACC has lost sight of the fact that APS has an incentive to spend money since they get a guaranteed return on their rate base. All of the above should have been considered before the first "smart" meter was installed.

As it turns out, APS's Elster "smart" meters did not even last 15 years. The ones just replaced in Phoenix lasted 7 years. APS's Elster "smart" meters installed in Sedona and the Verde Valley in 2014 will end up being replaced in 2016, a two year life. Be sure to thank the corrupt and incompetent ACC when your electric bill increases to pay for this foolish, colossal waste, waste that the ACC was warned about repeatedly but, negligently, only encouraged.

The ridiculously short life of "smart" meters is not a fluke unique to APS's Elsters. Testifying just last month before a joint hearing of the U.S. House Subcommittee on Energy and the U.S. House Subcommittee on Research and Technology, Bennett Gaines, Senior Vice President, Corporate Services and Chief Information Officer of FirstEnergy (the nation's largest investor owned utility with 6 million customers) said this about "smart" meters: "These devices have a life of between 5 to 7 years." (See him say it at 1:40:56 in the hearing's video minutes, here: <https://science.house.gov/legislation/hearings/subcommittee-energy-and-subcommittee-research-and-technology-hearing> .)

By the way, Gaines is not a "smart" meter critic. His company uses "smart" meters (not the Elster brand), and his company got a federal "stimulus" grant for them.

There's more.

APS's new Landis & Gyr "smart" meters will be transmitting microwave radiation at roughly four times the strength of the Elsters, a 300% increase. So watch for more people getting sick, and watch for more interference with other wireless stuff. For example, our ceiling fans are already getting their speed and direction adjusted – thanks to our neighbor's APS "smart" meter – from a distance of more than 30 yards away. I wonder what else we'll have to look forward to when our neighbors get their "upgrade."

By the way, using a Gigahertz Solutions HF35C microwave analyzer, I have measured the

microwave radiation of our neighbor's APS "smart" meter from inside our house. In our house it is *three times* the intensity of the microwave radiation that the huge cell towers one half mile away on Airport Mesa transmit into our house. So, utility claims of how weak "smart" meter microwave radiation is are just lies.

There's more.

The explanation I was given by APS – the one about the 2G cellular network becoming obsolete – *could* be a reason for APS to replace its *collector* "smart" meters (what APS calls "Gatekeepers"), but not *all* its "smart" meters everywhere. According to previous statements by APS, there is roughly one Gatekeeper for every 500 regular, or "Node," "smart" meters. The Gatekeepers collect the data from the other 500 and send it to APS via the 2G network. Since Node meters don't use 2G to communicate, and since Landis & Gyr and Elster are compatible as far as communication goes, it would not be necessary for APS to replace *any* of its Elster Node "smart" meters, just the Gatekeepers. So, typically, APS's explanation is sorely lacking. Perhaps APS will not even be using any Gatekeepers or cellular system at all. Many other utilities use pole mounted routers and repeaters, and have no need for Gatekeepers or the cellular system.

One explanation for the "upgrade" not given by APS but obvious to me is that the new Landis & Gyr "smart" meters have an additional microwave radio transceiver, something the Elsters did not have. Zigbee microwave radio transceivers are in the new Landis & Gyr "smart" meters to communicate with your "smart" appliances in the so-called Home Area Network (HAN). Don't have any "smart" appliances? That doesn't matter; the Zigbee may still be calling for them 24/7/365.

According to a study by Richard Tell Associates and commissioned by Vermont's Department of Public Service:

"... the HAN radios in the smart meters periodically issue a very brief signal lasting approximately 1.75 ms once every 15 seconds plus a group of four closely spaced signals once per minute for a total of eight pulse emissions per minute. These signals are presumably related to the HAN radio searching for IHDs [In Home Devices] in the vicinity that have been commissioned to wirelessly connect to the meter. This characteristic of the HAN radios ... means that one expects to observe periodic pulsed signals from the radio even if there is no IHD in range; in the case of multiple meters located together, as in a meter bank, more pulsed signals should be observed over time simply due to the greater number of meters, each sending out a periodic signal. (Page 38, *An Evaluation of Radio Frequency Fields Produced by Smart Meters Deployed in Vermont*, [http://publicservice.vermont.gov/sites/psd/files/Topics/Electric/Smart\\_Grid/Vermont%20DPS%20Smart%20Meter%20Measurement%20Report%20-%20Final.pdf](http://publicservice.vermont.gov/sites/psd/files/Topics/Electric/Smart_Grid/Vermont%20DPS%20Smart%20Meter%20Measurement%20Report%20-%20Final.pdf) )

In other words, in addition to the four times more intense microwave transmissions of the new Landis & Gyr "smart" meters, another layer of microwave radiation may be added on top of that to pollute people's environments – at least 8 times per minute (11,520 times per day) – and much, much more for those living near banks of meters.

There's more.

Looking for work? With just one to two weeks training, you can make \$32.61/hr. as a "smart" meter installer for APS's subcontractor, Apex Covantage! See their online ad here:

[http://www.indeed.com/cmp/Apex-CoVantage/jobs/Meter-Installer-9c5a9473f0a1982e?sjdu=QwrRXXKrqZ3CNX5W-O9jEvZCOgIjHMX8i3TwzvkiGNA2u-WeclicAgsSvG56GM9y\\_d777tpREBQkcpBfVoPu3KkXOq91dk4BBtkjBTUDq0Gw](http://www.indeed.com/cmp/Apex-CoVantage/jobs/Meter-Installer-9c5a9473f0a1982e?sjdu=QwrRXXKrqZ3CNX5W-O9jEvZCOgIjHMX8i3TwzvkiGNA2u-WeclicAgsSvG56GM9y_d777tpREBQkcpBfVoPu3KkXOq91dk4BBtkjBTUDq0Gw) .

The use of subcontractors in other states to install "smart" meters has a sorry record of rushed and substandard work. As of this writing I have not been able to ascertain if Apex installers, in addition to their salary, are working on a daily quota or worse, an incentive plan whereby the more meters they install the more money they make. Such a system has seen widespread use in other states, and has resulted in shoddy, dangerous work.

Remember that the meter clips that hold the meter in place are on *your* side of the meter and therefore they are *your* responsibility not APS's, likewise the wiring in the meter box. Any fire attributed to them is *your* problem. If the clips do not grasp the meter thoroughly – which can happen if they are old – then "hot socket" can occur which can result in fire. Old and worn meter box wiring has also caused fires after "smart" meter installations. APS has already admitted to such "smart" meter related fires but the ACC was too slack to thoroughly investigate. (For more information see: <http://images.edocket.azcc.gov/docketpdf/0000159029.pdf> )

Bottom line question: Do you trust someone inexperienced and with one to two weeks of training – and quite possibly in a rush – to thoroughly inspect your meter clips or meter box wiring before installing an APS "smart" meter? I know I don't.

There's more.

The Phoenix couple who brought APS's statewide "smart" meter "upgrade" to my attention also caught the subcontractors in the act of replacing the meter of one of their neighbors (a recent cancer survivor) who had refused a "smart" meter and so did not have one, but who was not at home to protest the subcontractors' violation. Despite being told of their mistake by the Phoenix couple, the subcontractors refused to stop installation, neither did they leave a note or door-hanger informing the homeowner of the switch.

That scenario has been played out by APS repeatedly in the past. Even former ACC commissioner Brenda Burns had a "smart" meter installed at her home despite her notifying APS not to install one. I expect such incompetence to only increase with the employment of these subcontractors.

Warning: If you have refused a "smart" meter already, be sure to keep an eye on your existing meter. You may find Apex has come when you weren't home and changed yours. We are only at the beginning of this latest chapter in the Great APS Toxic "Smart" Meter Boondoggle and it's already happened.

Lastly, recall that people who refuse “smart” meters have been constantly framed as “cost causers” by both APS and the ACC. Over the years I have proved that's not in the least bit true, and that in actual fact people who refuse “smart” meters should be getting a refund for subsidizing “smart” meters and a “smart” grid they don't want and never asked for. Now, with the epic fail of APS's Elster “smart” meters, can there be any doubt about who the *real* “cost causers” are? They are APS and their enablers, the ACC.

P.S. – When ACC commissioner Doug Little was on his APS money-lined campaign trail, one of my contacts who heard Little at a campaign event told me that Little, in response to a question about “smart” meters, said removal of “smart” meters already installed would be too expensive to undertake. It should be quite obvious now that Little's statement was a lie.